



Migrants seeking help for cognitive disturbances: exploratory data from an Italian memory clinic

Marco Canevelli^{1,2}  · Valerio Zaccaria¹ · Ciro Ruocco¹ · Martina Valletta¹ · Marina Gasparini¹ · Nicola Vanacore² · Matteo Cesari^{3,4} · Giuseppe Bruno¹

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Abstract

Introduction The phenomenon of dementia occurring in migrants and minority groups constitutes an emerging issue for Western countries. Nevertheless, it has been poorly explored from the perspective of “real-world” clinical services. We aimed to quantify the number of migrants from LMIC attending an Italian university memory clinic and to document its modifications over time.

Methods All the subjects undergoing a first neurological and cognitive assessment between 2001 and 2017 were considered for the present analyses.

Results The proportion of subjects from LMIC performing a first cognitive evaluation was found to remain substantially stable between 2001 and 2017. No statistically significant difference was found between “HIC” and “LMIC” individuals with regard to sociodemographic and clinical characteristics.

Conclusion These findings seem to indicate that cognitive disorders in LMIC migrants still constitute a marginal public health issues for Italian dementia services. Nevertheless, the identification of eventual sociocultural and healthcare barriers may help to understand the real magnitude and relevance of this phenomenon.

Keywords Dementia · Cognitive disorders · Migrants · Health disparities · Cross-cultural · Developing countries

Introduction

The phenomenon of dementia occurring in migrants and minority groups constitutes an emerging issue for Western countries, posing additional challenges to the complex approach to cognitive disorders [1]. In fact, cognitive disturbances are often under- or mis-diagnosed in these special groups of individuals [2, 3]. The diagnostic

process is also complicated by the paucity of appropriate tools and measures consenting a cross-cultural assessment of cognitive skills and deficits [4]. These limiting factors may also postpone medical help seeking for cognitive disturbances, thus resulting in a late detection of mostly overt and advanced cases. Finally, immigrant subjects affected by dementia may have reduced access to dedicated treatment, resources, and support [5, 6]. All these aspects may likely assume a greater relevance among people migrating from low- and middle-income countries (LMIC), due to low employment levels, limited social support and access to education, communication difficulties, and lower socio-economic status.

To date, most of available evidence on this topic has been obtained in the United States (US) [5] and, in a lesser extent, in the UK, due to their greater and more variegated ethnic diversity. Only few studies have specifically focused on cognitive disorders occurring in non-indigenous subjects and minority groups living in other European countries [1, 7]. The aims of the present study were to quantify the number of migrants from LMIC attending an Italian university memory clinic and to document its modifications over time.

✉ Marco Canevelli
marco.canevelli@gmail.com

¹ Department of Human Neuroscience, “Sapienza” University, Rome, Italy

² National Center for Disease Prevention and Health Promotion, National Institute of Health, Rome, Italy

³ Fondazione IRCCS Ca’ Granda Ospedale Maggiore Policlinico, Milan, Italy

⁴ Geriatric Unit, Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy

Methods

Data are from the clinical charts of all the subjects undergoing a first neurological and cognitive assessment at the Memory Clinic of the Department of Human Neuroscience, “Sapienza” University of Rome (Italy) between January 2001 and December 2017. Subjects were classified according to the World Bank income categories of their country of origin into (a) high-income countries (HIC) (thus including both Italian individuals and migrants born in other high-income countries) and (b) LMIC [8].

The Mini Mental State Examination (MMSE) was used to measure the global cognitive performance of participants. Their functional independence was assessed by means of the Activities of Daily Living (ADL) and Instrumental ADL (IADL) scales. A condition of disability was operationally identified by the impairment of at least one ADL. Data on MMSE, ADL, and IADL were missing for the 2.0%, 4.9%, and 5.6% of the study population, respectively.

Changes over time in the proportion of immigrant subjects from LMIC attending our center were assessed with chi-square test for trend. Parametric (chi-square and Student's *t* test) and non-parametric tests were used to compare the sociodemographic and clinical characteristics of the two groups of participants. Statistical level significance was set at $p \leq 0.05$.

Results

Overall, 2851 individuals (women 62.0%; mean age 72.9, standard deviation (SD) 10.6 years) were referred to our Memory Clinic due to cognitive disturbances in the considered time period. Among these subjects, 2809 were born in Italy, 28 were migrants from HIC (other European countries and North America), and 14 were migrants from LMIC (five from South America, five from South-Eastern Asia, and four from North Africa). All migrants spoke Italian sufficiently to provide a reliable performance at the cognitive testing.

The proportion of subjects from LMIC performing a first cognitive evaluation was found to remain substantially stable between 2001 and 2017 ($p = 0.98$), ranging between 0 and 1.1% (median 0.6; IQR 0.0–0.9) of the total patients attending our center.

No statistically significant difference was found between “HIC” and “LMIC” individuals with regard to age, sex distribution, educational level, cardiovascular risk factors, and severity of cognitive and functional impairment (all p values > 0.05 ; Table 1). Accordingly, no between-group differences were found when we compared the characteristics of native Italian patients with those of migrants coming from HIC and LMIC (data available upon request).

Table 1 Sociodemographic and clinical characteristics of the study sample. Data are expressed as % or mean \pm standard deviation

	HIC ^a ($n = 2837$)	LMIC ($n = 14$)	<i>p</i>
Age (years)	72.9 \pm 10.6	70.2 \pm 12.4	0.34
Sex (F)	62.2	50.0	0.41
Education (years)	9.3 \pm 5.0	10.3 \pm 4.9	0.45
Familial history of AD	24.6	14.3	0.54
Hypertension	55.2	57.1	1.00
Diabetes	14.1	21.4	0.44
Dyslipidemia	30.0	21.4	0.57
MMSE	22.7 \pm 7.0	20.0 \pm 10.0	0.36
MMSE \leq 24	50.2	58.2	0.42
ADL	5.0 \pm 1.7	4.8 \pm 1.7	0.46
IADL	5.0 \pm 2.9	5.0 \pm 3.3	0.88
Disability ^b	38.9	45.2	0.32

AD, Alzheimer's disease; ADL, activities of daily living; HIC, high-income countries; IADL, instrumental activities of daily living; LMIC, low- and middle-income countries; MMSE, Mini Mental State Examination

^a The HIC group included both Italian individuals and migrants born in other high-income countries

^b Disability was defined as the impairment of at least one ADL

Discussion

The present study represents the first attempt to characterize the issue of dementia among migrants and its evolving modifications in Italy. Our findings indicate that only a modest proportion of subjects seeking help for cognitive disturbances in our memory clinics is constituted by immigrant subjects from disadvantaged contexts (i.e., 0.5% of overall patients). The magnitude of this phenomenon has not substantially changed over time in the last 17 years.

These results are somehow surprising for several reasons. First, in about the same time frame (i.e., 2003–2017), the number of older (i.e., ≥ 65 years) immigrants living in Italy has shown a 14-fold increase compared to that of their native counterparts (source: <http://demo.istat.it>). Nearly 7700 dementia cases can be estimated in this population [9]. In particular, given the ongoing modifications of migratory flows, a growing proportion of patients from developing countries would have reasonably been expected. Second, in other European countries, the percentage of immigrant subjects from LMIC referred to memory clinics was found to significantly increase in recent years. For example, in Belgium, the proportion of immigrants from non-EU countries referred to a university memory clinic increased from 6 to 16% between 2005 and 2012 [10]. Moreover, these subjects exhibited different sociodemographic and phenotypic features (e.g., lower MMSE scores and higher prevalence of psychiatric diagnoses) compared to the other patients.

The present findings may suggest that diverse barriers and inadequacies, both at the service and community levels, are still limiting the access to care of immigrants from LMIC and minority groups affected by cognitive disturbances [2]. Therefore, only the wealthier and well-integrated immigrant individuals (e.g., those with richer social networks, regular contacts with their GPs, and less stigma around cognitive/mental illness) are being referred to our services, as possibly indicated in our analyses by the overlapping characteristics of subjects from LMIC and HIC.

Our study has several limitations. In particular, the monocentric design limits the generalizability of the findings, in particular to different clinical settings (i.e., primary and secondary care services). The study did not have sufficient power to detect significant between-group differences. Moreover, various data (e.g., diagnoses, ethnicity, neuropsychological measures, socioeconomic status, social/family network, sources of referral, anti-dementia drugs) that would have consented to provide additional, useful insights on the topic were not available for the present analyses.

In conclusion, the present findings seem to indicate that cognitive disorders in LMIC migrants still constitute a marginal public health issues for Italian dementia services. Nevertheless, the identification of the sociocultural and healthcare determinants influencing the utilization of resources and the pathways of care from non-autochthonous subjects coming from disadvantaged contexts with cognitive disturbances may help to understand the real magnitude and relevance of this phenomenon.

Compliance with ethical standards

Conflict of interest Marco Canevelli is supported by a research grant of the Italian Ministry of Health (GR-2016-02364975) for the project “Dementia in immigrants and ethnic minorities living in Italy: clinical-epidemiological aspects and public health perspectives” (ImmiDem).

Matteo Cesari has received honoraria for presentations at scientific meetings and/or research funding from Nestlé and Pfizer. He is involved in the coordination of an Innovative Medicines Initiative-funded project (including partners from the European Federation Pharmaceutical Industries and Associates (Sanofi, Novartis, Servier, GSK, Lilly)). The other authors have no conflict of interest to disclose.

Ethical approval All procedures were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

The present study did not require formal ethical approval. Data used in the present analyses were exclusively, retrospectively retrieved from medical charts where information was recorded as part of the standard clinical routine. Participating subjects (or legal guardians when necessary) provided their written informed consent for allowing the utilization of the collected data for research purposes (as required by the ethical committee of the “Policlinico Umberto I” university hospital of Rome).

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References

- Nielsen TR, Vogel A, Riepe MW, de Mendonça A, Rodriguez G, Nobili F, Gade A, Waldemar G (2011) Assessment of dementia in ethnic minority patients in Europe: a European Alzheimer’s Disease Consortium survey. *Int Psychogeriatr* 23(1):86–95
- Kenning C, Daker-White G, Blakemore A, Panagioti M, Waheed W (2017) Barriers and facilitators in accessing dementia care by ethnic minority groups: a meta-synthesis of qualitative studies. *BMC Psychiatry* 17(1):316
- Nielsen TR, Vogel A, Phung TKT, Gade A, Waldemar G (2011) Over- and under-diagnosis of dementia in ethnic minorities: a nationwide register-based study. *Int J Geriatr Psychiatry* 26(11):1128–1135
- Ardila A (2005) Cultural values underlying psychometric cognitive testing. *Neuropsychol Rev* 15(4):185–195
- Cooper C, Tandy AR, Balamurali TBS, Livingston G (2010) A systematic review and meta-analysis of ethnic differences in use of dementia treatment, care, and research. *Am J Geriatr Psychiatry* 18(3):193–203
- Stevnsborg L, Jensen-Dahm C, Nielsen TR, Gasse C, Waldemar G (2016) Inequalities in access to treatment and care for patients with dementia and immigrant background: a Danish Nationwide Study. *J Alzheimers Dis* 54(2):505–514
- Diaz E, Kumar BN, Engedal K (2015) Immigrant patients with dementia and memory impairment in primary health care in Norway: a national registry study. *Dement Geriatr Cogn Disord* 39(5–6):321–331
- World Bank Open Data | Data [Internet]. [cited 2018 May 4]. Available from: <https://data.worldbank.org/>
- Canevelli M, Lacorte E, Cova I, Zaccaria V, Valletta M, Agabiti N, Bruno G, Bargagli AM, Pomati S, Pantoni L, Vanacore N (2018) Estimating dementia cases in the immigrant population living in Italy. *Neurol Sci* 39(10):1775–1778
- Segers K, Benoit F, Colson C, Kovac V, Nury D, Vanderaspolden V (2013) Pioneers in migration, pioneering in dementia: first generation immigrants in a European metropolitan memory clinic. *Acta Neurol Belg* 113(4):435–440